Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
Universal Service Reform – Mobility Fund	)	WT Docket No. 10-208
	)	
ETC Annual Reports and Certifications	)	WC Docket No. 14-58
	)	
Establishing Just and Reasonable Rates for Local Exchange Carriers	)	WC Docket No. 07-135
	)	
Developing an Unified Intercarrier Compensation Regime	)	CC Docket No. 01-92
	)	

COMMENTS OF ADTRAN, INC.

Stephen L. Goodman
Butzel Long, PLLC
1747 Pennsylvania Ave, NW, Suite 300
Washington, DC 20006
(202) 454-2851
Goodman@butzel.com
Counsel for ADTRAN, Inc.

Dated: August 8, 2014

SUMMARY

ADTRAN welcomes this opportunity to address several of the issues raised in the Commission's *Further NPRM* concerning the CAF Phase II broadband subsidy program. ADTRAN supports the proposed refinements to CAF Phase II that will further the goal of efficiently bringing broadband to much of the unserved and underserved communities.

ADTRAN believes that the proposed increase in minimum downstream speed to be supported by CAF Phase II can be increased from 4 Mbps to 10 Mbps. Such a requirement will be challenging, however, because it will also require the costly deployment of fiber deeper into the network. Service providers presently can offer 6 Mbps downstream service using ADSL2+ technology at a reach of 12 kft from the central office or remote terminal. Because distance affects the throughput of DSL service, increasing the minimum downstream data rate to 10 Mbps would decrease the reach to about 8 kft, thus necessitating additional fiber and remote terminals to provide reliable service to locations currently beyond 8 kft from the central office or remote terminal. In addition, the service providers would need to enhance their middle mile facilities and Internet connectivity to support the additional traffic. ADTRAN would urge the Commission not to further increase the minimum downstream speed, because it would be unfair to "keep moving the goalposts," and the 10 Mbps is itself "reasonably comparable" to broadband service in urban deployments.

On the other hand, ADTRAN suggests that the minimum upstream capacity not be increased above 1 Mbps. Increasing the upstream speed would be particularly expensive, because the technology and network designs were based on the assumption that there would be a much greater demand for downstream capacity than upstream capacity. Bonded ADSL2+ Annex A could be deployed, but only where there are multiple copper loops to each location, and it would still be a more costly solution, because it requires two transceivers at each end. Other DSL technologies such as ADSL2+ Annex M or VDSL2 would be problematic because of the need for much shorter loops or incompatibility with current technology. Moreover, the 1 Mbps minimum would still provide "reasonably comparable" services, particularly because it would allow the supported subscribers at the farthest distance from the Central Office or remote terminal to still utilize most expected and common upstream activities, including videoconferencing, file backup, cloud-based services, telehealth and education.

ADTRAN supports the proposals to provide the broadband service providers with additional time and flexibility in deploying new services. Extending the cost model support to the ten-year period that currently will be provided for the bidding-based support will help provide the necessary subsidy amounts to help support the considerable investments that will be necessary. More importantly, the extended period for support will provide the necessary stability for the service providers to make the significant capital investments they will be required to shoulder in order to deploy this expanded level of broadband service. In addition, providing an extended period of support should also result in lower costs for CAF Phase II in the long run. Likewise, providing a little bit of additional flexibility will allow the providers to deploy service in the most efficient manner possible.

ADTRAN urges the Commission to ensure that the CAF Phase II program is

technologically neutral. The Commission should allow the service provider to use any technology, whether wireline or wireless, fixed or mobile, terrestrial or satellite, but at the same time should not relax the performance requirements for any technology. The Commission should require all technologies to meet the same criteria for latency, capacity and coverage – in addition to speed/throughput – in order to ensure that in areas to be supported by CAF Phase II, as well as in areas ineligible for support because they are already served by an unsubsidized competitor, consumers will have access to broadband that will allow them to enjoy the services and applications commonly accessed by subscribers now and into the foreseeable future. Accordingly, the Commission should prioritize the development of a comprehensive, accurate testing regime for wireless and satellite technologies to ensure that such services can meet the specified performance requirements.

Finally, ADTRAN supports the Commission's goal of ensuring that reasonably comparable broadband services are also available to anchor institutions such as schools, libraries or hospitals, but believes that achieving that goal is best accomplished through the more targeted Schools and Libraries or Rural Health Care programs.

The Commission's plan to offer support under CAF Phase II based on the cost model or a competitive bidding program, with the minor enhancements supported by ADTRAN, will provide the service providers with the requisite funds and stability to make the significant investments necessary to roll out these services in a timely fashion. ADTRAN thus urges the Commission to move ahead promptly with these changes so that CAF Phase II model-determined support can begin to be distributed in 2015, and the bidding-based support can begin to flow as soon as possible thereafter.

TABLE OF CONTENTS

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
Universal Service Reform – Mobility Fund	)	WT Docket No. 10-208
	)	
ETC Annual Reports and Certifications	)	WC Docket No. 14-58
	)	
Establishing Just and Reasonable Rates for Local Exchange Carriers	)	WC Docket No. 07-135
	)	
Developing an Unified Intercarrier Compensation Regime	)	CC Docket No. 01-92

COMMENTS OF ADTRAN, INC.

ADTRAN, Inc. ("ADTRAN") takes this opportunity to comment on several issues raised in the recent *Further Notice of Proposed Rulemaking*[1] seeking to refine some of the aspects of the Connect America Fund Phase II broadband subsidy program ("CAF Phase II"). ADTRAN has been a strong supporter of the Connect America Fund, and believes the Commission has designed a program that will efficiently bring broadband to much of the unserved and underserved communities. As explained in these Comments, ADTRAN supports the proposed refinements to CAF Phase II that will further that goal.

---

[1] *Connect America Fund; A National Broadband Plan For Our Future; Establishing Just And Reasonable Rates For Local Exchange Carriers; High-Cost Universal Service Support; Developing A Unified Intercarrier Compensation Regime; Federal-State Joint Board On Universal Service; Lifeline And Link-Up; Universal Service Reform – Mobility Fund*; WC Docket Nos. 10-90, 07-135, 05-337, 03-109, CC Docket Nos. 01-92, 96-45, GN Docket No. 09-51, WT Docket No. 10-208, Report And Order, Declaratory Ruling, Order, Memorandum Opinion And Order, Seventh Order On Reconsideration, and Further Notice Of Proposed Rulemaking, 79 Fed Reg 39196 (July 9, 2014)(hereafter cited as "*Further NPRM*").

As a manufacturer of telecommunications equipment used in the Internet and Internet access networks, ADTRAN appreciates the manifold benefits of the widespread availability of dynamic and robust broadband access services. ADTRAN, founded in 1986 and headquartered in Huntsville, Alabama, is a leading global manufacturer of networking and communications equipment, with an innovative portfolio of solutions for use in the last mile of today's telecommunications networks. ADTRAN's equipment is deployed by some of the world's largest service providers, as well as distributed enterprises and small and medium businesses. ADTRAN thus brings an expansive perspective to this proceeding, as well as an understanding of the impact of regulatory obligations on network operators' deployment and investment decisions.

Proposed Changes to the Downstream Speed Requirements

One of the proposed refinements in the *Further NPRM* would be to increase the minimum broadband speeds to be supported under CAF Phase II from the current 4 Mbps downstream (with some locations at 6 Mbps) to 10 Mbps downstream.[2] In particular, the *Further NPRM* seeks "comment on this proposal, as well as the consequences and tradeoffs involved in raising the standard, including the ability to preserve and advance broadband service for consumers within the Connect America budget."[3] The Commission proposes this increase to help ensure that consumers in rural parts of the country have access to advanced telecommunications and information services that are reasonably comparable to those services available in urban areas, consistent with statutory principles for universal service support.[4]

---

2 *Further NPRM* at ¶¶ 138-146.

3 *Further NPRM* at ¶ 138.

4 47 U.S.C. § 254(b)(3):

As an initial matter, ADTRAN appreciates the fact that the Commission recognizes that there are "consequences and tradeoffs" with such a change. Perhaps in an ideal world there would be almost limitless broadband capacity to every residence, business, school and library in America, but such a pipe dream is unrealistic. ADTRAN supports the implementation of gigabit broadband wherever it could be feasible. However, the National Broadband Plan estimated that such deployment would require a subsidy of some of $321.8 billion to construct fiber-to-the-premises throughout the United States.[5] The Commission recognized that the CAF would need to operate within a much smaller budget, hence the requirement for some compromises and tradeoffs. In addition, Congress also acknowledged that it would be prohibitively expensive to deploy broadband in less densely populated areas, hence the specification of "reasonably comparable" in Section 254(b)(3). Economics and technology dictate the need for reasonable accommodations in CAF Phase II to maximize the benefits of subsidized broadband within budgetary constraints.

Nevertheless, ADTRAN believes that advances in DSL technology would be one way to provide increased downstream speeds to most rural locations to ensure that the vast majority of subsidized customers would not be relegated to second-class broadband, without needing to exceed the CAF budget. But as explained below, such an increase in downstream speed will require that the Commission extend the period for which the subsidy will be provided, so that it

---

> Consumers in all regions of the Nation, including low-income consumers and those in rural, insular, and high cost areas, should have access to telecommunications and information services, including interexchange services and advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas and that are available at rates that are reasonably comparable to rates charged for similar services in urban areas.

[5] *See*, National Broadband Plan at p. 59, Exhibit 3-M, available at http://transition.fcc.gov/national-broadband-plan/broadband-availability-gap-paper.pdf.

would be ten years for both incumbent carriers that elect state-wide support and winners of the reverse auctions.[6] The additional time will provide the extra funds and the extended stability to support the required investment by the incumbent carriers in the necessary last-mile, middle-mile and network upgrades.

ADTRAN does take issue with the suggestion in the *Further NPRM* that delays in the beginning of CAF Phase II are a sufficient basis for increasing the speed benchmarks.[7] While the passage of time generally has allowed broadband technology to evolve somewhat, those changes may not be enough to change the economics and investment incentives for technology upgrades. ADTRAN believes it would be overly simplistic to raise the speed benchmarks just because of the delay in implementation of CAF Phase II, particularly because that delay was the result of Commission processes to refine the CAF Phase II cost model and other parameters of the subsidy program. A policy of constantly "moving the goalposts" would create too much uncertainty to allow service providers to commit the necessary investment, thereby defeating the purpose of the broadband subsidy program. ADTRAN believes that the Commission should thus select – and stick with -- a "reasonably comparable" downstream speed benchmark that will allow the currently unserved and underserved homes and businesses to engage in most expected activities, including videoconferencing, file backup, cloud-based services, telehealth, education

---

6 *Cf.*, *Further NPRM* at ¶ 148 ("If the Commission adopts the proposal to extend broadband downstream speeds to 10 Mbps, we seek comment regarding whether it should provide a longer term for Connect America Phase II model-based support than the five-year term it adopted in the *USF/ICC Transformation Order*.").

7 *Further NPRM* at ¶ 139:

> At the time of the adoption of the *USF/ICC Transformation Order*, Phase II model-based support was expected to begin in 2013 and run until 2017. With model-based support now likely to be disbursed in the 2015-2019 timeframe, it is appropriate to reevaluate the speed benchmark in light of the most recent data.

and entertainment.

In the downstream direction, 10 Mbps would be such an achievable benchmark -- albeit a challenging one -- with current and expected broadband technologies. Two of the main factors that affect the cost of deploying increased downstream speeds are density of homes/businesses served and the additional investment needed to deploy fiber deeper into the network. While it would be impractical to deploy fiber-to-the-premises to many locations, deploying fiber somewhat deeper into the network would allow the service providers to take advantage of advanced DSL technology and the copper loops already in place to customer premises in order to provide "reasonably comparable" downstream speeds.

Presently service providers can offer 6 Mbps downstream service using ADSL2+ technology at a reach of 12 kft from the central office or remote terminal. Because distance affects the throughput of DSL service, increasing the required minimum downstream data rate to 10 Mbps would decrease the reach to about 8 kft, thus necessitating additional fiber and remote terminals to provide reliable service to locations currently beyond 8 kft from the central office or remote terminal. And as the Commission recognizes, those deployment costs are significant. In addition, the increase in speed would likely necessitate deployment of additional network capabilities, as well as the construction of additional middle-mile facilities. After all, even if the last mile connections can support higher speeds, it would not enhance the experience of the end user if they suffer from a congested network during peak periods. The costs would thus rise exponentially as the mandated minimum speeds increase.

Of course, the distance limitations for DSL technologies will mostly affect locations that are farthest from the Central Office or remote terminal. For those locations that are closer, the broadband service providers will be able to offer even higher speeds than the 10 Mbps that the

Commission is proposing as the subsidized minimum capability. Thus, for many of the rural subscribers, the downstream speeds will be even more comparable to the offerings being made available to urban customers.

The *Further NPRM* also indicates that the Commission intends to provide clarity to the service providers of any new speed requirement.[8] ADTRAN believes that the service providers deserve to know in advance of agreeing to a state-level commitment what speed minimum they are obligating themselves to deploy. While they may be able to provide even greater capabilities (and with the case of DSL will be able to do so for the locations closer to a central office or remote terminal), the service providers would not have to build into their decision of whether to accept the state-wide commitment some degree of "reserve" due to an unknown number of locations to be served by a higher speed "to be determined" later by the Bureau.

In contrast to this suggestion of clarity with respect to the service provider's obligations, elsewhere in the *Further NPRM*, the Commission proposes that the minimum speed requirements might increase over time.[9] ADTRAN believes it would be unfair to the service providers to make changes mid-stream. Because of the various engineering constraints, the service providers can most efficiently design and deploy a network if they know what specifications they will need to meet. They should not be left guessing how much "extra" they should try to design in. A few years before the end of the initial CAF Phase II funding period, the Commission could initiate a proceeding to address the consumers' evolving needs and the

---

8 *Further NPRM* at ¶ 147:

> If we adopt our proposal to raise the minimum speed benchmark to 10 Mbps downstream, we propose that the Bureau would no longer be required to specify a number of locations that would receive 6 Mbps downstream or 1.5 Mbps upstream for recipients of model-based support. We seek comment on this proposal.

9 *Further NPRM* at ¶¶ 157-158.

technological capabilities then existing for purposes of any follow-on broadband subsidy program. It would be premature to speculate now on what may be appropriate that many years out.

Proposed Changes to the Upstream Speed Requirements

The *Further NPRM* also seeks comment on whether to increase the upstream speed requirement for supported broadband services to a level higher than the 1 Mbps specified currently.[10] Any increase in the upstream speed presents much greater challenges, because the technology and network designs were based on the assumption that there would be a much greater demand for downstream capacity than upstream capacity. In light of current and expected upstream capacity, as well as expected upstream demand, ADTRAN suggests that the minimum upstream capacity not be increased above 1 Mbps. Such a speed would still provide "reasonably comparable" services, particularly because it would allow the supported subscribers at the farthest distance from the Central Office or remote terminal to still utilize most expected and common upstream activities, including videoconferencing, file backup, cloud-based services, telehealth and education.

On the other hand, increasing the upstream speeds would be particularly expensive. Any upstream requirement above 1Mbps would rule out ADSL2+ Annex A over a single loop as the access technology. However, ADSL2+ Annex A over a single loop is the primary access technology over copper loops in rural areas today. While it would be possible to provide an increased upstream speed using Bonded ADSL2+ Annex A, that solution is only viable where there are two copper loops available to each of the subscriber locations. In situations where Bonded ADSL2+ Annex A could be deployed, it would still be a more costly solution, because it

[10] *E.g., Further NPRM* at ¶¶ 138 and 141.

requires two transceivers at each end. In addition, Bonded ADSL2+ Annex A would only support up to 2 Mbps upstream maximum (1 Mbps maximum for each of two loops). It would also be possible in theory to increase the upstream speed through use of ADSL2+ Annex M. However, this would require deployment on shorter loops (less than 6 kft), because adding to the upstream capacity comes at the sacrifice of downstream capacity. In addition, implementation of ADSL2+ Annex M would be more costly and complex. Use of ADSL2+ Annex M is spectrally incompatible with existing ADSL2+ Annex A, which would preclude line-by-line migration to the newer, more robust version. Upgrades, including new customer premises modems, would have to be coordinated across an entire binder at a time.

Finally, ADTRAN observes that another potential technical solution to increase upstream speeds would be VDSL2. However, this particular technology mandates the use of significantly shorter loops (less than 5 kft), which may not be practical in rural areas. In sum, increasing the minimum upstream speeds for less dense/rural locations presents significant technological and/or cost hurdles. Particularly given the fact that nearly all expected upstream activities can be supported by the presently specified 1 Mbps requirement, ADTRAN urges the Commission not to increase this parameter. The current 1 Mbps requirement will still ensure that rural customers enjoy "reasonably comparable" services, without straining the limited resources available for subsidizing broadband service through CAF Phase II.

Additional Time and Flexibility

The *Further NPRM* also seeks comment on whether to provide the recipients of model-based support under CAF Phase II with additional time and flexibility to deploy broadband

services with the increased speed to its unserved and underserved locations.[11] The Commission additionally requests comment on whether recipients of the competitive bidding-based support should also be granted a measure of flexibility with regard to the deployment of the subsidized broadband services.[12] ADTRAN believes that it would be appropriate to modify the requirements to provide such flexibility.

As explained above, deploying broadband with greater downstream speeds will take significant efforts, because it will involve not only upgrades to the transmission equipment at the customer locations and the central offices/remote terminals, but also deployment of fiber deeper into the network. In addition, the service providers will need to upgrade middle mile facilities, as well as connectivity to the Internet, to accommodate the increased traffic. All of this will require significant capital investments by the service providers, because the CAF Phase II support is intended to cover only a portion of those costs in order to make it economical to deploy service (at "reasonably comparable" rates) to locations that otherwise would go unserved. Extending the cost model support to the ten-year period that currently will be provided for the bidding-based support will help provide the necessary subsidy amounts to help support the considerable investments that will be necessary. More importantly, the extended period for support will provide the necessary stability for the service providers to make the significant capital investments they will be required to shoulder in order to deploy this expanded level of broadband service.

Providing an extended period of support should also result in lower costs for CAF Phase II in the long run. The recent experiences with the deployment of broadband in connection with

---

[11] *Further NPRM* at ¶¶ 142, 148, 164-168.

[12] *Further NPRM* at ¶ 165.

the stimulus programs[13] taught us that there is limited capacity in this country for the required engineering and construction skills – as well as manufacturing capacity for the necessary equipment – required to deploy broadband services. And the CAF Phase II program will require significantly more effort than the one-time stimulus deployments. An extended period of construction under CAF Phase II will allow these various engineering, construction and manufacturing capabilities to ramp up, rather than just "bidding up" the price of the constrained capabilities and resources available presently.

The *Further NPRM* recognizes that in some instances it may be possible for the service provider to complete deployment of the enhanced broadband capabilities on an accelerated basis.[14] ADTRAN believes that the Commission should encourage earlier deployment where possible, because the subscribers will be able to enjoy the myriad benefits of robust broadband sooner. Offering the providers earlier payments for accelerated deployment would incent such activities. In addition, the earlier availability of enhanced broadband capabilities will benefit the subscribers to those services, and also benefit the public more generally due to the "network effects" of broadband. On the other hand, the CAF should be no worse off, because the outlays will not increase (and could decrease slightly to the extent the Commission discounts the accelerated future payments to reflect the time value of money).

The *Further NPRM* suggests that any accelerated payments would be contingent on the Universal Service Administrative Company ("USAC") validation of the completion of network

---

[13] Some $7.5 billion in broadband investment was provided by the federal stimulus programs. Congress appropriated funds for the Broadband Initiatives Program (BIP) and the Broadband Technology Opportunities Program (BTOP) under the American Recovery and Reinvestment Act of 2009 (Pub. L. No. 111-5, 123 Stat. 115 (2009).

[14] *Further NPRM* at ¶ 161.

deployment.[15] ADTRAN is concerned that by mandating USAC inspection and review of the deployed broadband capabilities, the Commission would be creating a very resource intensive process that will be burdensome on both USAC and the service providers. Based on experiences with the stimulus program, imposing a validation/inspection obligation requires a lot of time and resources on all sides. ADTRAN believes that the wiser course would be to require certification (under penalty of perjury) by the service provider that construction has been completed, along with providing USAC with audit rights and a directive to perform some random audits/inspections to help ensure compliance.

ADTRAN also supports the *Further NPRM*'s proposals to provide all recipients of CAF Phase II support (both model-based state-wide support and competitive bidding support) with some degree of flexibility in selecting the locations to which the 10 Mbps broadband will be deployed. One such form of flexibility would be to allow the service providers "swap out" locations so that an unserved location in a partially-served census block could be substituted for a location within an unserved census block.[16] ADTRAN believes that the Commission should allow such substitution at a minimum – that is, the service provider would need to deploy service to at least one substituted location for each one in the unserved census block that would not be served, but the providers should be encouraged to add more replacement locations, if possible. Providing for such flexibility would allow the service providers to maximize the "bang for the buck" and bring service to potentially even more presently unserved locations.

The *Further NPRM* also seeks comment on whether service providers should be allowed to specify a slightly reduced level of deployment, with a consequent reduction in the level of

---

15 *Ibid.*

16 *Further NPRM* at ¶ 167.

support.[17] Allowing the service providers to operate with a degree of flexibility in this manner would give them the opportunity to maximize the efficiency of broadband deployment without the "outliers" adversely affecting the ability of the vast majority of locations to become served by robust broadband services. ADTRAN would suggest providing slightly more flexibility than what was proposed in the *Further NPRM* – ADTRAN suggests that a service provider would have to serve at a minimum 90 percent of the locations (versus the 95 percent suggested in the *Further NPRM*).

The *Further NPRM* additionally asks whether the concomitant reduction in support that would accompany any reduction in the number of locations served should be based on the percentage unserved in proportion to the total locations, or whether it should be based on the model-derived support for the unserved locations.[18] ADTRAN believes that using the model-derived support to reduce the subsidy amount would be problematical. While the model may be relatively accurate for predicting a carrier's deployment costs on a state-wide basis as various geographic factors get "averaged out," the model is less precise with respect to the costs of deploying broadband to a specific site.

With respect to the timing of a service provider availing itself of these various flexibility options, ADTRAN suggests that the decisions should not have to be made right from the start. ADTRAN would allow the service providers to make any such determinations during the first year of the CAF Phase II support. This will allow the service providers an opportunity to carefully consider all of the relevant factors as it refines its plans and designs. At the same time, by providing a one-year deadline, the Commission would still have an opportunity to provide

---

17 *Further NPRM* at ¶ 165.

18 *Further NPRM* at ¶ 166.

alternative support options for any such "abandoned" locations, including another round of bidding or the Remote Area Fund.

Technological Neutrality

ADTRAN has been an ardent supporter of technological neutrality with respect to the CAF program. ADTRAN thus agrees with the Commission's suggestion in the *Further NPRM* that a service provider could fulfill its obligations to deploy broadband service to unserved locations using "any technology or combination thereof – whether wireline or wireless, fixed or mobile, terrestrial or satellite – that meets the performance standards for Phase II."[19] But it is also critical that the Commission not "tilt the playing field" by relaxing the standards for any technology, and essential that the Commission prioritize development of a comprehensive, accurate testing regime for wireless and satellite technologies to ensure that such services, if deployed, meet the Commission's requirements.

ADTRAN urges the Commission to apply to all technologies the same criteria for latency, capacity and coverage – in addition to speed/throughput – in order to ensure that in areas to be supported by CAF Phase II, as well as in areas ineligible for support because they are already served by an unsubsidized competitor, consumers will have access to broadband that will allow them to enjoy the services and applications commonly accessed by subscribers now and into the foreseeable future. While satellite broadband service is a significant improvement over the dial-up access that may be the only alternative in some areas, while some of the more recently-launched satellites may be an improvement over previous generation satellite service, and while satellite broadband may be a efficient way to provide service in very-high cost insular areas so as to be eligible for RAF subsidies, satellite broadband technology today does not provide the requisite latency to meet the CAF Phase II criteria. Absent unusual circumstances –

[19] *Further NPRM* at ¶ 154.

such as the exceedingly high costs of serving areas through the RAF -- "almost good enough" is not good enough. Nothing has changed from the time of the Commission's earlier determination to be "technologically neutral" that would warrant any relaxation of the standards to accommodate any particular technology's shortcomings.[20]

ADTRAN also believes that the Commission should include a consistent and robust testing procedure to ensure that the service to be provided under CAF Phase II, regardless of the technology being used – as well as service offered by a competitor so as to deem an area ineligible for CAF Phase II support -- conforms to the prescribed "standards" for broadband. Of course, in establishing the testing requirements, the Commission need not "re-invent the wheel." The Commission, working with a wide array of industry and academia representatives, has developed a testing program in conjunction with its Measuring Broadband America reports.[21] In addition, the Commission has encouraged the initiation of work in at least two organizations (the Broadband Forum and the Internet Engineering Task Force) to facilitate the measurement of broadband performance on a large scale. These efforts have provided and will continue to improve measurement processes capable of a consistent and accurate measure of whether the service will indeed allow the subscribers to reap the benefits of broadband. Without a consistent and robust measurement process, service providers could possibly game the system to certify compliance when "real world" performance was not actually sufficient for a subscriber to enjoy

---

[20] ADTRAN believes it would be anomalous to exempt mobile broadband providers from some of the Open Internet rules because of the constraints on that technology (*Open Internet NPRM*, FCC 14-61, released may 15, 2014 at ¶ 105), but then to ignore the limits on mobile broadband technology in this context so as to provide support even if the mobile broadband services did not meet the prescribed specifications.

[21] 2013 Measuring Broadband America Report, March 2013, at pp. 15-18; Technical Appendix at pp. 12-32 (http://data.fcc.gov/download/measuring-broadband-america/2013/Technical-Appendix-feb-2013.pdf).

the benefits of broadband. Without a specified testing procedure it would be as if carmakers could devise their own test for determining mileage by measuring performance only when the car was going downhill with a tailwind.

The *Further NPRM* also seeks comment on whether the determination of the status of an area as already being served so as to be ineligible for CAF funding should continue to hinge on whether the provider is "unsubsidized."[22] ADTRAN agrees as a general matter that it would not be an efficient use of the limited broadband subsidy funds to allow subsidies for overbuilding, regardless of whether the current broadband service provider (offering service that meets all of the criteria) is an unsubsidized competitor, or a subsidized competitor. As ADTRAN observed when it supported the elimination of duplicate support for mobile service providers:

> [W]hile there may be benefits from the competition that arises when multiple providers are offering service, clearly the costs of subsidizing deployment would soar if several providers were being subsidized in each territory. Moreover, any such competition would be "synthetic," since the entry costs have deterred any broadband providers, much less multiple providers, and any such managed "synthetic competition" is costly and does not produce the benefits of real competition.[23]

There is, however, an important *caveat* to this general principle. Where there is a subsidized service provider offering compliant broadband presently, there must be some assurance that service will continue to be provided by that provider, even if the subsidy is eliminated or phased out. Otherwise, instead of there being duplicate service providers, there would be no broadband service. Thus, in order for an area to be deemed ineligible for CAF Phase II support, any currently subsidized provider must indicate a willingness to continue providing service, even in the absence of a continued subsidy.[24]

---

[22] *Further NPRM* at ¶¶ 174 and 175.

[23] ADTRAN Comments in WC Docket No. 10-90, filed April 18, 2011, at pp. 7-8.

[24] On the other hand, ADTRAN does not believe the Commission can compel a service

Anchor Institutions

The *Further NPRM* also seeks to develop the record with regard to the provision of broadband services to community anchor institutions.[25] ADTRAN recognizes that there is a critical need for higher capacity connections to anchor institutions in rural areas such as schools, libraries and hospitals. In the E-rate reform proceeding, ADTRAN had recommended that the minimum broadband capacity to schools initially be set at 100 Mbps per 1,000 users (students and staff), increasing to a minimum of 1 Gbps per 1,000 users.[26]

ADTRAN continues to believe that such greater capacity is necessary, and could be readily implemented, particularly to the extent that the service providers will also be deploying the necessary enhancements to their middle mile facilities and Internet connectivity to accommodate the increased traffic generally. However, ADTRAN believes that the "reasonable comparability" to urban rates (or relative affordability) for service to anchor institutions can best be ensured by relying on the Schools and Libraries or Rural Health Care subsidy programs to provide the necessary support for broadband to such anchor institutions. The more targeted Schools and Libraries or Rural Health Care programs are better suited to gauge the requirements of those anchor institutions, and how best to meet the institutions' needs and support such services.

CONCLUSION

ADTRAN has strongly supported the Commission's CAF Phase II broadband subsidy program as a means of ensuring that the majority of unserved and underserved locations gain

---

provider to continue offering service if the subsidy is eliminated.

[25] *Further NPRM* at ¶ 159.

[26] Comments of ADTRAN, Inc. in WC Docket No. 13-184, filed September 16, 2013, at pp. 11-12.

access to these important services. The Commission's plan to offer such support based on the cost model or a competitive bidding program, with the minor enhancements discussed above, will provide the ISPs with the requisite funds and stability so that they would be willing to make the significant investments necessary to roll out these services in a timely fashion. ADTRAN thus urges the Commission to move ahead promptly with these changes so that CAF Phase II model-determined support can begin to be distributed in 2015, and the bidding-based support can begin to flow as soon as possible thereafter.

Respectfully submitted,
ADTRAN, Inc.

By: ____/s/_____
Stephen L. Goodman
Butzel Long, PLLC
1747 Pennsylvania Ave, NW, Suite 300
Washington, DC 20006
(202) 454-2851
Goodman@butzel.com

Dated: August 8, 2014